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FIGURE 1

BFA4 cDNA Sequence

ATGGTCCGGAAAAAGAACCCCCCTCTGAGAAACGTTGCAAGTGAAGGCGAGGGCCAGATCCTGGAGCCTATAGGTACAGAAAGCAAGGT
ATCTGGAAAGAACAAAGAATTCTCTGCAGATCAGATGTCAGAAAATACGGATCAGAGTGATGCTGCAGAACTAAATCATAAGGAGGAACA
TAGCTTGCATGTTCAAGATCCATCTTCTAGCAGTAAGAAGGACTTGAAAAGCGCAGTTCTGAGTGAGAAGGCTGGCTTCAATTATGAAAG
CCCCAGTAAGGGAGGAAACTTTCCCTCCTTTCCGCATGATGAGGTGACAGACAGAAATATGTTGGCTTTCTCATTTCCAGCTGCTGGGGG
AGTCTGTGAGCCCTTGAAGTCTCCGCAAAGAGCAGAGGCAGATGACCCTCAAGATATGGCCTGCACCCCCTCAGGGGACTCACTGGAGAC
AAAGGAAGATCAGAAGATGTCACCAAAGGCTACAGAGGAAACAGGGCAAGCACAGAGTGGTCAAGCCAATTGTCAAGGTTTGAGCCCAGT
TTCAGTGGCCTCAAAAAACCCACAAGTGCCTTCAGATGGGGGTGTAAGACTGAATAAATCCAAAACTGACTTACTGGTGAATGACAACCC
AGACCCGGCACCTCTGTCTCCAGAGCTTCAGGACTTTAAATGCAATATCTGTGGATATGGTTACTACGGCAACGACCCCACAGATCTGAT
TAAGCACTTCCGAAAGTATCACTTAGGACTGCATAACCGCACCAGGCAAGATGCTGAGCTGGACAGCAAAATCTTGGCCCTTCATAACAT
GGTGCAGTTCAGCCATTCCAAAGACTTCCAGAAGGTCAACCGTTCTGTGTTTTCTGGTGTGCTGCAGGACATCAATTCTTCAAGGCCTGT
TTTACTAAATGGGACCTATGATGTGCAGGTGACTTCAGGTGGAACATTCATTGGCATTGGACGGAAAACACCAGATTGCCAAGGGAACAC
CAAGTATTTCCGCTGTAAATTCTGCAATTTCACTTATATGGGCAACTCATCCACCGAATTAGAACAACATTTTCTTCAGACTCACCCAAA
CAAAATAAAAGCTTCTCTCCCCTCCTCTGAGGTTGCAAAACCTTCAGAGAAAAACTCTAACAAGTCCATCCCTGCACTTCAATCCAGTGA
TTCTGGAGACTTGGGAAAATGGCAGGACAAGATAACAGTCAAAGCAGGAGATGACACTCCTGTTGGGTACTCAGTGCCCATAAAGCCCCT
CGATTCCTCTAGACAAAATGGTACAGAGGCCACCAGTTACTACTGGTGTAAATTTTGTAGTTTCAGCTGTGAGTCATCTAGCTCACTTAA
ACTGCTAGAACATTATGGCAAGCAGCACGGAGCAGTGCAGTCAGGCGGCCTTAATCCAGAGTTAAATGATAAGCTTTCCAGGGGCTCTGT
CATTAATCAGAATGATCTAGCCAAAAGTTCAGAAGGAGAGACAATGACCAAGACAGACAAGAGCTCGAGTGGGGCTAAAAAGAAGGACTT
CTCCAGCAAGGGAGCCGAGGATAATATGGTAACGAGCTATAATTGTCAGTTCTGTGACTTCCGATATTCCAAAAGCCATGGCCCTGATGT
AATTGTAGTGGGGCCACTTCTCCGTCATTATCAACAGCTCCATAACATTCACAAGTGTACCATTAAACACTGTCCATTCTGTCCCAGAGG
ACTTTGCAGCCCAGAAAAGCACCTTGGAGAAATTACTTATCCGTTTGCTTGTAGAAAAAGTAATTGTTCCCACTGTGCACTCTTGCTTCT
GCACTTGTCTCCTGGGGCGGCTGGAAGCTCGCGAGTCAAACATCAGTGCCATCAGTGTTCATTCACCACCCCTGACGTAGATGTACTCCT
CTTTCACTATGAAAGTGTGCATGAGTCCCAAGCATCGGATGTCAAACAAGAAGCAAATCACCTGCAAGGATCGGATGGGCAGCAGTCTGT
CAAGGAAAGCAAAGAACACTCATGTACCAAATGTGATTTTATTACCCAAGTGGAAGAAGAGATTTCCCGACACTACAGGAGAGCACACAG
CTGCTACAAATGCCGTCAGTGCAGTTTTACAGCTGCCGATACTCAGTCACTACTGGAGCACTTCAACACTGTTCACTGCCAGGAACAGGA
CATCACTACAGCCAACGGCGAAGAGGACGGTCATGCCATATCCACCATCAAAGAGGAGCCCAAAATTGACTTCAGGGTCTACAATCTGCT
AACTCCAGACTCTAAAATGGGAGAGCCAGTTTCTGAGAGTGTGGTGAAGAGAGAGAAGCTGGAAGAGAAGGACGGGCTCAAAGAGAAAGT
TTGGACCGAGAGTTCCAGTGATGACCTTCGCAATGTGACTTGGAGAGGGGCAGACATCCTGCGGGGGAGTCCGTCATACACCCAAGCAAG
CCTGGGGCTGCTGACGCCTGTGTCTGGCACCCAAGAGCAGACAAAGACTCTAAGGGATAGTCCCAATGTGGAGGCCGCCCATCTGGCGCG
ACCTATTTATGGCTTGGCTGTGGAAACCAAGGGATTCCTGCAGGGGGCGCCAGCTGGCGGAGAGAAGTCTGGGGCCCTCCCCCAGCAGTA
TCCTGCATCGGGAGAAAACAAGTCCAAGGATGAATCCCAGTCCCTGTTACGGAGGCGTAGAGGCTCCGGTGTTTTTTGTGCCAATTGCCT
GACCACAAAGACCTCTCTCTGGCGAAAGAATGCAAATGGCGGATATGTATGCAACGCGTGTGGCCTCTACCAGAAGCTTCACTCGACTCC
CAGGCCTTTAAACATCATTAAACAAAACAACGGTGAGCAGATTATTAGGAGGAGAACAAGAAAGCGCCTTAACCCAGAGGCACTTCAGGC
TGAGCAGCTCAACAAACAGCAGAGGGGCAGCAATGAGGAGCAAGTCAATGGAAGCCCGTTAGAGAGGAGGTCAGAAGATCATCTAACTGA
AAGTCACCAGAGAGAAATTCCACTCCCCAGCCTAAGTAAATACGAAGCCCAGGGTTCATTGACTAAAAGCCATTCTGCTCAGCAGCCAGT
CCTGGTCAGCCAAACTCTGGATATTCACAAAAGGATGCAACCTTTGCACATTCAGATAAAAAGTCCTCAGGAAAGTACTGGAGATCCAGG
AAATAGTTCATCCGTATCTGAAGGGAAAGGAAGTTCTGAGAGAGGCAGTCCTATAGAAAAGTACATGAGACCTGCGAAACACCCAAATTA
TTCACCACCAGGCAGCCCTATTGAAAAGTACCAGTACCCACTTTTTGGACTTCCCTTTGTACATAATGACTTCCAGAGTGAAGCTGATTG
GCTGCGGTTCTGGAGTAAATATAAGCTCTCCGTTCCTGGGAATCCGCACTACTTGAGTCACGTGCCTGGCCTACCAAATCCTTGCCAAAA
CTATGTGCCTTATCCCACCTTCAATCTGCCTCCTCATTTTTCAGCTGTTGGATCAGACAATGACATTCCTCTAGATTTGGCGATCAAGCA
TTCCAGACCTGGGCCAACTGCAAACGGTGCCTCCAAGGAGAAAACGAAGGCACCACCAAATGTAAAAAATGAAGGTCCCTTGAATGTAGT
AAAAACAGAGAAAGTTGATAGAAGTACTCAAGATGAACTTTCAACAAAATGTGTGCACTGTGGCATTGTCTTTCTGGATGAAGTGATGTA
TGCTTTGCATATGAGTTGCCATGGTGACAGTGGACCTTTCCAGTGCAGCATATGCCAGCATCTTTGCACGGACAAATATGACTTCACAAC
ACATATCCAGAGGGGCCTGCATAGGAACAATGCACAAGTGGAAAAAAAATGGAAAACCTAAAGAGTAA*

FIGURE 2

BFA4 Amino Acid Sequence

MVRKKNPPLRNVASEGEGQILEPIGTESKVSGKNKEFSADQMSENTDQSDAAELNHKEEHSLHVQDPSSS
SKKDLKSAVLSEKAGFNYESPSKGGNFPSFPHDEVTDRNMLAFSFPAAGGVCEPLKSPQRAEADDPQDMA
CTPSGDSLETKEDQKMSPKATEETGQAQSGQANCQGLSPVSVASKNPQVPSDGGVRLNKSKTDLLVNDNP
DPAPLSPELQDFKCNICGYGYYGNDPTDLIKHFRKYHLGLHNRTRQDAELDSKILALHNMVQFSHSKDFQ
KVNRSVFSGVLQDINSSRPVLLNGTYDVQVTSGGTFIGIGRKTPDCQGNTKYFRCKFCNFTYMGNSSTEL
EQHFLQTHPNKIKASLPSSEVAKPSEKNSNKSIPALQSSDSGDLGKWQDKITVKAGDDTPVGYSVPIKPL
DSSRQNGTEATSYYWCKFCSFSCESSSSLKLLEHYGKQHGAVQSGGLNPELNDKLSRGSVINQNDLAKSS
EGETMTKTDKSSSGAKKKDFSSKGAEDNMVTSYNCQFCDFRYSKSHGPDVIVVGPLLRHYQQLHNIHKCT
IKHCPFCPRGLCSPEKHLGEITYPFACRKSNCSHCALLLLHLSPGAAGSSRVKHQCHQCSFTTPDVDVLL
FHYESVHESQASDVKQEANHLQGSDGQQSVKESKEHSCTKCDFITQVEEEISRHYRRAHSCYKCRQCSFT
AADTQSLLEHFNTVHCQEQDITTANGEEDGHAISTIKEEPKIDFRVYNLLTPDSKMGEPVSESVVKREKL
EEKDGLKEKVWTESSSDDLRNVTWRGADILRGSPSYTQASLGLLTPVSGTQEQTKTLRDSPNVEAAHLAR
PIYGLAVETKGFLQGAPAGGEKSGALPQQYPASGENKSKDESQSLLRRRRGSGVFCANCLTTKTSLWRKN
ANGGYVCNACGLYQKLHSTPRPLNIIKQNNGEQIIRRRTRKRLNPEALQAEQLNKQQRGSNEEQVNGSPL
ERRSEDHLTESHQREIPLPSLSKYEAQGSLTKSHSAQQPVLVSQTLDIHKRMQPLHIQIKSPQESTGDPG
NSSSVSEGKGSSERGSPIEKYMRPAKHPNYSPPGSPIEKYQYPLFGLPFVHNDFQSEADWLRFWSKYKLS
VPGNPHYLSHVPGLPNPCQNYVPYPTFNLPPHFSAVGSDNDIPLDLAIKHSRPGPTANGASKEKTKAPPN
VKNEGPLNVVKTEKVDRSTQDELSTKCVHCGIVFLDEVMYALHMSCHGDSGPFQCSICQHLCTDKYDFTT
HIQRGLHRNNAQVEKNGKPKE

FIGURE 3

A. BCY1 cDNA Sequence

TGCAAGATTAAGGCCTTGAGGGCCAAGACCAACACCTACATCAAGACACCGGTGAGGGGCGAGGAACCAGTGTTCATGGTG
ACAGGGCGACGGGAGGACGTGGCCACAGCCCGGCGGGAAATCATCTCAGCAGCGGAGCACTTCTCCATGATCCGTGCCTCC
CGCAACAAGTCAGGCGCCGCCTTTGGTGTGGCTCCTGCTCTGCCCGGCCAGGTGACCATCCGTGTGCGGGTGCCCTACCGC
GTGGTGGGGCTGGTGGTGGGCCCCAAAGGGGCAACCATCAAGCGCATCCAGCAGCAAACCAACACATACATTATCACACCA
AGCCGTGACCGCGACCCCGTGTTCGAGATCACGGGTGCCCCAGGCAACGTGGAGCGTGCGCGCGAGGAGATCGAGACGCAC
ATCGCGGTGCGCACTGGCAAGATCCTCGAGTACAACAATGAAAACGACTTCCTGGCGGGGAGCCCCGACGCAGCAATCGAT
AGCCGCTACTCCGACGCCTGGCGGGTGCACCAGCCCGGCTGCAAGCCCCTCTCCACCTTCCGGCAGAACAGCCTGGGCTGC
ATCGGCGAGTGCGGAGTGGACTCTGGCTTTGAGGCCCCACGCCTGGGTGAGCAGGGCGGGGACTTTGGCTACGGCGGGTAC
CTCTTTCCGGGCTATGGCGTGGGCAAGCAGGATGTGTACTACGGCGTGGCCGAGACTAGCCCCCCGCTGTGGGCGGGCCAG
GAGAACGCCACGCCCACCTCCGTGCTCTTCTCCTCYKCCTCCTCCTCCTCCTCTTCCGCCAAGGCCCGCGCTGGGCCC
CCGGGCGCACACCGCTCCCCTGCCACTTCCGCGGGACCCGAGCTGGCCGGACTCCCGAGGCGCCCCCCGGGAGAGCCGCTC
CRGGGCTTCTCTAAACTTGGTGGGGGCGGCCTGCGGAGCCCCGCAGCCGGCGGGCGGGATTGCATGGTCTGCTTTGAGAGC
GAAGTGACTGCCGCCCTTGTGCCCTGCGGACACAACCTGTTCTGCATGGAGTGTGCAGTACGCATCTGCGAGAGGACGGAC
CCAGAGTGTCCCGTCTGCCACATCACAGCCACGCAAGCCATCCGAATATTCTCCTAAGCCCCGTGCCCCATGCCTCCGGGG
CCCACTCCACTGGGCCCACCCTGGACCTGTTTTCCACTAAAGCCTTTTGGAAAGCGGTGATTTGAGGGGCAAGGTGCTTAG
AGATACTCGCTCGCTGGGGAAGGGGGGAGGGAGGCAGTGGTGGCTGGAGGGTGCGCCACTTTCAGAGCCTCTGGTCACCCT
GTCCTGGAAAGATTGGGAGGGGGCCAGACTGAAAATTTTACTAGAGTTACAACTCTGATACCTCAACACACCCTTAAATCT
GGAAGCAGCTAAGAGAAACTTTTGTTTTGCCAGAGGTGGCCACTAAGGCATTCTGACGCCCTCTGCCCACCTCCCCCGCTG
TGTGTCACTCCACCCCTTCTTCCGAGGAGGGGGTGGGTAAAAGGGAGAGGGAGAATTACCACCTGTATCTAGAGGTGCTCT
TTGCAATCCCTAAGCCCTCTGGTCCTGACCTCCGACCTCCCAGCTCTGTCTTGTTCCTTGTCTTTGTCTTTCTTCCCTTCC
CCCTGCCCCTGCCCCTACCAGCCCAGCTTTGGGGACACCATCCTTCTGGGGAGAAGTAGGGGGAGGAATATTTGGATGGTC
CCTCCATTCCTCTTCAGGCATCTGGAGGCCCTCTCCCCCACTCCTCCAAAGAAACATCTCAAATTATTGATGGAATGTATC
CCCATTCTCAGTGAAAATGTGAGGAGGGGACTAATACTGGGGTAAAGGGTCAAACCCCCACCTTCATCACTATGGGCATTA
TATTTAGGGAGTAGTTCTTGGGCTGGATTTTCTGGTTGTGGAAGTGGGGGCGCCAGAGTAGTGTGTCTGCTATTTAAAGGA
GCAGGAAAGGGCGTGAGGCAGGAGGAGAGACTGGTGGAGGGAAGAGCTGCTCCTCCCATGCAGTGCCCGACTCCCTGCACC
CCTCTCAACCTGACCTGAACCTTTATTGAATCCTTATTAGCTTGAATCCTTATTAGCTTGAATCCTCCATGCAAATCATGG
AGTCTGTGTCCCACCTGATGTGGTTGAGGAGAAGCCAGGTCTTCAAAGAGGGGTCAGCCTGGGGCAAAGCAGGACTGGGGG
GAGGTGGGCAGCAGGGCCTATTCTGAGAATCACATATTGTTACAGGCCTTGCACCCCCTTTGCTGCTTCCCTCCTGCTCAT
TTGGGGCTGCCACCAGCTCTCCACCCTCCTGGTTCCGCTGGCCGGGCCAAGAGAGGATGGAGGGATGGGAGTCCCAGGAGA
TCCTTGTAAATAGTGGGGTGGGACTGTTCTGAGTGATCACCCGAGCACTTAAAGCTCCAGAGTCCCATTCTTCCTGGATGG
AGCAGGTGGAGGTGCAGAGGGGATTTCCTCCTCTCCTTCCTCCTGTCGAGAATTAACACCTCTCCACAGCCTTCCCCTCCA
GAACACCAGCCAGGGAGGGGTGGGGAAGGAGGTCACAGCCAAGAAAACTGCCCTGTGACGACTTCCCTCCTTCCCGCCTAT
GTGAGCCATCCTGAGATGTCTGTACAATAGAAACCAAACCAAATGGGCACCCTCGGTTGCCGGGGGGCAGGTGGGGAGGGG
GGTGGGAAGAAGGGATGTCTGTCTGTCGTCCCCCTCCCCCTCTCCACTCTTTACCCACAAAGGCAGAAGACTGTTACACTA
GGGGGCTCAGCAAATTCAATCCCACCCTTACCAATTGAGCCAAACCTAGAAACAAACACAAAACACGAATAGTGAGAGACA
AAATAGAGGAGAGAAAGAGAGCATGAGAGGGAGCGAGACAGGCGACCAACACAGAGGAGAGAAAACAAAAATAGCAAAAAA
AAAAAAAAAAAA

B. BCY1 Amino Acid Sequence

MAELRLKGSS NTTECVPVPT SEHVAEIVGR QGCKIKALRA KTNTYIKTPV RGEEPVFMVT
GRREDVATAR REIISAAEHF SMIRASRNKS GAAFGVAPAL PGQVTIRVRV PYRVVGLVVG
PKGATIKRIQ QQTNTYIITP SRDRDPVFEI TGAPGNVERA REEIETHIAV RTGKILEYNN
ENDFLAGSPD AAIDSRYSDA WRVHQPGCKP LSTFRQNSLG CIGECGVDSG FEAPRLGEQG
GDFGYGGYLF PGYGVGKQDV YYGVAETSPP LWAGQENATP TSVLFSSASS SSSSSAKARA
GPPGAHRSPA TSAGPELAGL PRRPPGEPLQ GFSKLGGGGL RSPGGGRDCM
VCFESEVTAA LVPCGHNLFC MECAVRICER TDPECPVCHI TAAQAIRIFS

FIGURE 4

ATGACAAAGAGGAAGAAGACCATCAACCTTAATATACAAGACGCCCAGAAGAGGACTGCTCTACACTGGGCCTGTGTCAAT
GGCCATGAGGAAGTAGTAACATTTCTGGTAGACAGAAAGTGCCAGCTTGACGTCCTTGATGGCGAACACAGGACACCTCTG
ATGAAGGCTCTACAATGCCATCAGGAGGCTTGTGCAAATATTCTGATAGATTCTGGTGCCGATATAAATCTCGTAGATGTG
TATGGCAACATGGCTCTCCATTATGCTGTTTATAGTGAGATTTTGTCAGTGGTGGCAAAACTGCTGTCCCATGGTGCAGTC
ATCGAAGTGCACAACAAGGCTAGCCTCACACCACTTTTACTATCCATAACGAAAAGAAGTGAGCAAATTGTGGAATTTTTG
CTGATAAAAAATGCAAATGCGAATGCAGTTAATAAGTATAAATGCACAGCCCTCATGCTTGCTGTATGTCATGGATCATCA
GAGATAGTTGGCATGCTTCTTCAGCAAAATGTTGACGTCTTTGCTGCAGATATATGTGGAGTAACTGCAGAACATTATGCT
GTTACTTGTGGATTTCATCACATTCATGAACAAATTATGGAATATATACGAAAATTATCTAAAAATCATCAAAATACCAAT
CCAGAAGGAACATCTGCAGGAACACCTGATGAGGCTGCACCCTTGGCGGAAAGAACACCTGACACAGCTGAAAGCTTGGTG
GAAAAAACACCTGATGAGGCTGCACCCTTGGTGGAAAGAACACCTGACACGGCTGAAAGCTTGGTGGAAAAAACACCTGAT
GAGGCTGCATCCTTGGTGGAGGGAACATCTGACAAAATTCAATGTTTGGAGAAAGCGACATCTGGAAAGTTCGAACAGTCA
GCAGAAGAAACACCTAGGGAAATTACGAGTCCTGCAAAAGAAACATCTGAGAAATTTACGTGGCCAGCAAAAGGAAGACCT
AGGAAGATCGCATGGGAGAAAAAAGAAGACACACCTAGGGAAATTATGAGTCCCGCAAAAGAAACATCTGAGAAATTTACG
TGGGCAGCAAAAGGAAGACCTAGGAAGATCGCATGGGAGAAAAAAGAAACACCTGTAAAGACTGGATGCGTGGCAAGAGTA
ACATCTAATAAAACTAAAGTTTTGGAAAAAGGAAGATCTAAGATGATTGCATGTCCTACAAAAGAATCATCTACAAAAGCA
AGTGCCAATGATCAGAGGTTCCCATCAGAATCCAAACAAGAGGAAGATGAAGAATATTCTTGTGATTCTCGGAGTCTCTTT
GAGAGTTCTGCAAAGATTCAAGTGTGTATACCTGAGTCTATATATCAAAAAGTAATGGAGATAAATAGAGAAGTAGAAGAG
CCTCCTAAGAAGCCATCTGCCTTCAAGCCTGCCATTGAAATGCAAAACTCTGTTCCAAATAAAGCCTTTGAATTGAAGAAT
GAACAAACATTGAGAGCAGATCCGATGTTCCCACCAGAATCCAAACAAAAGGACTATGAAGAAAATTCTTGGGATTCTGAG
AGTCTCTGTGAGACTGTTTCACAGAAGGATGTGTGTTTACCCAAGGCTACACATCAAAAAGAAATAGATAAAATAAATGGA
AAATTAGAAGAGTCTCCTAATAAAGATGGTCTTCTGAAGGCTACCTGCGGAATGAAAGTTTCTATTCCAACTAAAGCCTTA
GAATTGAAGGACATGCAAACTTTCAAAGCGGAGCCTCCGGGGAAGCCATCTGCCTTCGAGCCTGCCACTGAAATGCAAAAG
TCTGTCCCAAATAAAGCCTTGGAATTGAAAAATGAACAAACATGGAGAGCAGATGAGATACTCCCATCAGAATCCAAACAA
AAGGACTATGAAGAAAATTCTTGGGATACTGAGAGTCTCTGTGAGACTGTTTCACAGAAGGATGTGTGTTTACCCAAGGCT
GCGCATCAAAAAGAAATAGATAAAATAAATGGAAAATTAGAAGGGTCTCCTGTTAAAGATGGTCTTCTGAAGGCTAACTGC
GGAATGAAAGTTTCTATTCCAACTAAAGCCTTAGAATTGATGGACATGCAAACTTTCAAAGCAGAGCCTCCCGAGAAGCCA
TCTGCCTTCGAGCCTGCCATTGAAATGCAAAAGTCTGTTCCAAATAAAGCCTTGGAATTGAAGAATGAACAAACATTGAGA
GCAGATGAGATACTCCCATCAGAATCCAAACAAAAGGACTATGAAGAAAGTTCTTGGGATTCTGAGAGTCTCTGTGAGACT
GTTTCACAGAAGGATGTGTGTTTACCCAAGGCTACACATCAAAAAGAAATAGATAAAATAAATGGAAAATTAGAAGAGTCT
CCTGATAATGATGGTTTTCTGAAGGCTCCCTGCAGAATGAAAGTTTCTATTCCAACTAAAGCCTTAGAATTGATGGACATG
CAAACTTTCAAAGCAGAGCCTCCCGAGAAGCCATCTGCCTTCGAGCCTGCCATTGAAATGCAAAAGTCTGTTCCAAATAAA
GCCTTGGAATTGAAGAATGAACAAACATTGAGAGCAGATCAGATGTTCCCTTCAGAATCAAAACAAAAGAAGGTTGAAGAA
AATTCTTGGGATTCTGAGAGTCTCCGTGAGACTGTTTCACAGAAGGATGTGTGTGTACCCAAGGCTACACATCAAAAAGAA
ATGGATAAAATAAGTGGAAAATTAGAAGATTCAACTAGCCTATCAAAAATCTTGGATACAGTTCATTCTTGTGAAAGAGCA
AGGGAACTTCAAAAAGATCACTGTGAACAACGTACAGGAAAAATGGAACAAATGAAAAAGAAGTTTTGTGTACTGAAAAAG
AAACTGTCAGAAGCAAAAGAAATAAAATCACAGTTAGAGAACCAAAAAGTTAAATGGGAACAAGAGCTCTGCAGTGTGAGA
TTGACTTTAAACCAAGAAGAAGAGAAGAGAAGAAATGCCGATATATTAAATGAAAAAATTAGGGAAGAATTAGGAAGAATC
GAAGAGCAGCATAGGAAAGAGTTAGAAGTGAAACAACAACTTGAACAGGCTCTCAGAATACAAGATATAGAATTGAAGAGT
GTAGAAAGTAATTTGAATCAGGTTTCTCACACTCATGAAAATGAAAATTATCTCTTACATGAAAATTGCATGTTGAAAAAG
GAAATTGCCATGCTAAAACTGGAAATAGCCACACTGAAACACCAATACCAGGAAAAGGAAAATAAATACTTTGAGGACATT
AAGATTTTAAAAGAAAAGAATGCTGAACTTCAGATGACCCTAAAACTGAAAGAGGAATCATTAACTAAAAGGGCATCTCAA
TATAGTGGGCAGCTTAAAGTTCTGATAGCTGAGAACACAATGCTCACTTCTAAATTGAAGGAAAAACAAGACAAAGAAATA
CTAGAGGCAGAAATTGAATCACACCATCCTAGACTGGCTTCTGCTGTACAAGACCATGATCAAATTGTGACATCAAGAAAA
AGTCAAGAACCTGCTTTCCACATTGCAGGAGATGCTTGTTTGCAAAGAAAAATGAATGTTGATGTGAGTAGTACGATATAT
AACAATGAGGTGCTCCATCAACCACTTTCTGAAGCTCAAAGGAAATCCAAAAGCCTAAAAATTAATCTCAATTATGCAGGA
GATGCTCTAAGAGAAAATACATTGGTTTCAGAACATGCACAAAGAGACCAACGTGAAACACAGTGTCAAATGAAGGAAGCT
GAACACATGTATCAAAACGAACAAGATAATGTGAACAAACACACTGAACAGCAGGAGTCTCTAGATCAGAAATTATTTCAA
CTACAAAGCAAAAATATGTGGCTTCAACAGCAATTAGTTCATGCACATAAGAAAGCTGACAACAAAAGCAAGATAACAATT
GATATTCATTTTCTTGAGAGGAAAATGCAACATCATCTCCTAAAAGAGAAAAATGAGGAGATATTTAATTACAATAACCAT
TTAAAAAACCGTATATATCAATATGAAAAAGAGAAAGCAGAAACAGAAAACTCATGA

FIGURE 5

MTKRKKTINLNIQDAQKRTALHWACVNGHEEVVTFLVDRKCQLDVLDGEHRTPLMKALQCHQEACANILIDSGADINLVDV
YGNMALHYAVYSEILSVVAKLLSHGAVIEVHNKASLTPLLLSITKRSEQIVEFLLIKNANANAVNKYKCTALMLAVCHGSS
EIVGMLLQQNVDVFAADICGVTAEHYAVTCGFHHIHEQIMEYIRKLSKNHQNTNPEGTSAGTPDEAAPLAERTPDTAESLV
EKTPDEAAPLVERTPDTAESLVEKTPDEAASLVEGTSDKIQCLEKATSGKFEQSAEETPREITSPAKETSEKFTWPAKGRP
RKIAWEKKEDTPREIMSPAKETSEKFTWAAKGRPRKIAWEKKETPVKTGCVARVTSNKTKVLEKGRSKMIACPTKESSTKA
SANDQRFPSESKQEEDEEYSCDSRSLFESSAKIQVCIPESIYQKVMEINREVEEPPKKPSAFKPAIEMQNSVPNKAFELKN
EQTLRADPMFPPESKQKDYEENSWDSESLCETVSQKDVCLPKATHQKEIDKINGKLEESPNKDGLLKATCGMKVSIPTKAL
ELKDMQTFKAEPPGKPSAFEPATEMQKSVPNKALELKNEQTWRADEILPSESKQKDYEENSWDTESLCETVSQKDVCLPKA
AHQKEIDKINGKLEGSPVKDGLLKANCGMKVSIPTKALELMDMQTFKAEPPEKPSAFEPAIEMQKSVPNKALELKNEQTLR
ADEILPSESKQKDYEESSWDSESLCETVSQKDVCLPKATHQKEIDKINGKLEESPDNDGFLKAPCRMKVSIPTKALELMDM
QTFKAEPPEKPSAFEPAIEMQKSVPNKALELKNEQTLRADQMFPSESKQKKVEENSWDSESLRETVSQKDVCVPKATHQKE
MDKISGKLEDSTSLSKILDTVHSCERARELQKDHCEQRTGKMEQMKKKFCVLKKKLSEAKEIKSQLENQKVKWEQELCSVR
LTLNQEEEKRRNADILNEKIREELGRIEEQHRKELEVKQQLEQALRIQDIELKSVESNLNQVSHTHENENYLLHENCMLKK
EIAMLKLEIATLKHQYQEKENKYFEDIKILKEKNAELQMTLKLKEESLTKRASQYSGQLKVLIAENTMLTSKLKEKQDKEI
LEAEIESHHPRLASAVQDHDQIVTSRKSQEPAFHIAGDACLQRKMNVDVSSTIYNNEVLHQPLSEAQRKSKSLKINLNYAG
DALRENTLVSEHAQRDQRETQCQMKEAEHMYQNEQDNVNKHTEQQESLDQKLFQLQSKNMWLQQQLVHAHKKADNKSKITI
DIHFLERKMQHHLLKEKNEEIFNYNNHLKNRIYQYEKEKAETENS